

INTERNATIONAL SEARCH REPORT

International application No.

PCT/FI 2004/000714

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: F16L 47/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: F16L, F16B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE, DK, FI, NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-----------------------|
| X | US 3502355 A (H.W. DEMLER, SR. ET AL), 24 March 1970 (24.03.1970), column 4, line 52 - column 5, line 5, figures 7-10 -- | 1 |
| Y | AU 35181 A (JOHN BRIAN O'HAIR ET AL), 3 May 1973 (03.05.1973), figure A -- | 1 |
| Y | US 2484644 A (O.J. POUPITCH), 11 October 1949 (11.10.1949), figures 1-3 -- | 1 |
| Y | US 3856065 A (GEHRING), 24 December 1974 (24.12.1974), figures 1-2 -- | 1 |

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

10 March 2005

Date of mailing of the international search report

11-03-2005

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|-----------------------|
| X | US 4154466 A (SIMMONS), 15 May 1979 (15.05.1979), column 3, line 32 - column 4, line 22, figures 2-3 ----- | 10 |

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/FI 2004/000714

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|----|---------|---|------------|--|
| US | 3502355 | A | 24/03/1970 | NONE |
| AU | 35181 | A | 03/05/1973 | NONE |
| US | 2484644 | A | 11/10/1949 | NONE |
| US | 3856065 | A | 24/12/1974 | NONE |
| US | 4154466 | A | 15/05/1979 | AU 514698 B 19/02/1981 AU 3206977 A 05/07/1979 CA 1082247 A 22/07/1980 CA 1102847 A 09/06/1981 CA 1102848 A 09/06/1981 CA 1118469 A 16/02/1982 FR 2376354 A,B 28/07/1978 GB 1600608 A 21/10/1981 GB 1600609 A 21/10/1981 GB 1600610 A 21/10/1981 IE 46637 B 10/08/1983 IE 46638 B 10/08/1983 IE 46639 B 10/08/1983 IE 772648 L 03/07/1978 IE 812783 L 03/07/1978 IE 812784 L 03/07/1978 JP 53089021 A 05/08/1978 MY 45986 A 31/12/1986 MY 46086 A 31/12/1986 MY 97685 A 31/12/1985 NL 185238 B,C 18/09/1989 NL 7713919 A 05/07/1978 NO 161820 B,C 19/06/1989 NO 774200 A 04/07/1978 SG 84984 G 07/06/1985 SG 85084 G 07/06/1985 SG 85284 G 07/06/1985 US RE31123 E 11/01/1983 |